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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,711	03/20/2000	GAKU HARADA	PF-2554	5841

466 7590 11/20/2002

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EXAMINER

CHANEY, CAROL DIANE

ART UNIT	PAPER NUMBER
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1745

11

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/528,711

Applicant(s)

HARADA ET AL.

Examiner

Carol Chaney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9-4-02.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1, 2 and 4-18 is/are pending in the application.
- 4a) Of the above claim(s) 7-10 and 15-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-6 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Objections

Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The acids recited in claim 4 do not all meet the limitation "having a single proton-dissociating site". Sulfuric acid, H_2SO_4 , has two proton-dissociating sites.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al., US Patent 4,740,436 for reasons of record. Kobayashi et al. teach polymers of aniline or an aniline derivative as the positive electrode active material of secondary batteries. Kobayashi et al. list diphenylamine as a "typical example" of a monomer of their invention, and teach both homopolymers and copolymers are encompassed by their disclosure. Thus, one of ordinary skill in the art would recognize poly(diphenylamine) as one of a relatively small number of polymers intended to be encompassed by the Kobayashi et al. invention. Kobayashi et al. suggest that the polymers of their invention should be complexed (doped) with a protonic acid. (Note column 6, lines 1-4.) Preferred anions of the protonic acid used for

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the complexing are Cl^- , BF_4^- , and ClO_4^- , (Column 6, lines 47-58.) Thus, Kobayashi et al. teach doping or complexing polybiphenylamine.

Response to Arguments

Applicant's arguments filed 04 September 2002 have been fully considered but they are not persuasive. Applicants assert that since Kobayashi et al. contemplate both homopolymerization and copolymerization of aniline derivatives, would require one of ordinary skill in the art to choose an "expressly less-preferred derivative but also the assumption that this less-preferred monomer should be homopolymerized..." In response, it is noted that Kobayashi et al. teach diphenylamine as a "typical example of the aniline compound represented..." (Column 2, lines 56-61.) Although, as noted by the applicants, diphenylamine is not among the top three "preferred" monomers, and not the "most preferred" monomer, polydiphenylaniline is representative of the monomers of the Kobayashi et al. invention, is clearly within the scope of the Kobayashi et al. invention, rather than being "an expressly less-preferred derivative". The disclosure of a reference is not limited to the disclosure's specific illustrative examples, but must be considered as a whole to ascertain what would be realistically suggested to one of ordinary skill in the art. See, for example, *In re Uhlig*, 153 USPQ 460 (CCPA 1967).

Applicants suggest the instant invention is limited to homopolymers of polydiphenylaniline. Kobayashi et al. clearly include homopolymers within the scope of their invention. Further, applicants' claim limitation of "a conductive polymer comprising

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a polybiphenylaniline..." does not appear to be limited to a homopolymers. A polymer comprising biphenylaniline includes both copolymers and homopolymers.

With regards to the comparative data presented in applicants' specification, the data presented by the applicants does not illustrate a comparison between the nearest prior art of Kobayashi et al. and the instant invention. Applicants' Example 1 and Comparative Example 1 illustrate distinctions between poly(biphenylaniline) and polyaniline, both doped with SO_4 . Applicants' Example 2 and Comparative Example 2 illustrate distinctions between poly(biphenylaniline) doped with SO_4 and doped with naphthalene disulfonic acid. Applicants' Example 3 and Comparative Example 3 illustrate distinctions between poly(biphenylaniline) doped with CF_3SO_3 and doped with polyvinylsulfonic acid. The instant invention and the Kobayashi invention are not compared by these examples, there is no comparison between a cathode active material comprising poly(biphenylaniline) doped with an acid having a single proton-dissociating site (the instant invention) and a poly(biphenylaniline) doped with HCl , HBF_4 , and HClO_4 (the Kobayashi invention.)

The rejection over Hirai et al. has been withdrawn in view of applicants' amendments. Hirai et al. do not suggest acid-doping of polydiphenylaniline.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (703) 305-3777. The examiner can normally be reached on Mon - Fri 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Carol Chaney
Primary Examiner
Art Unit 1745

cc
November 15, 2002